

Ideas on the Edge



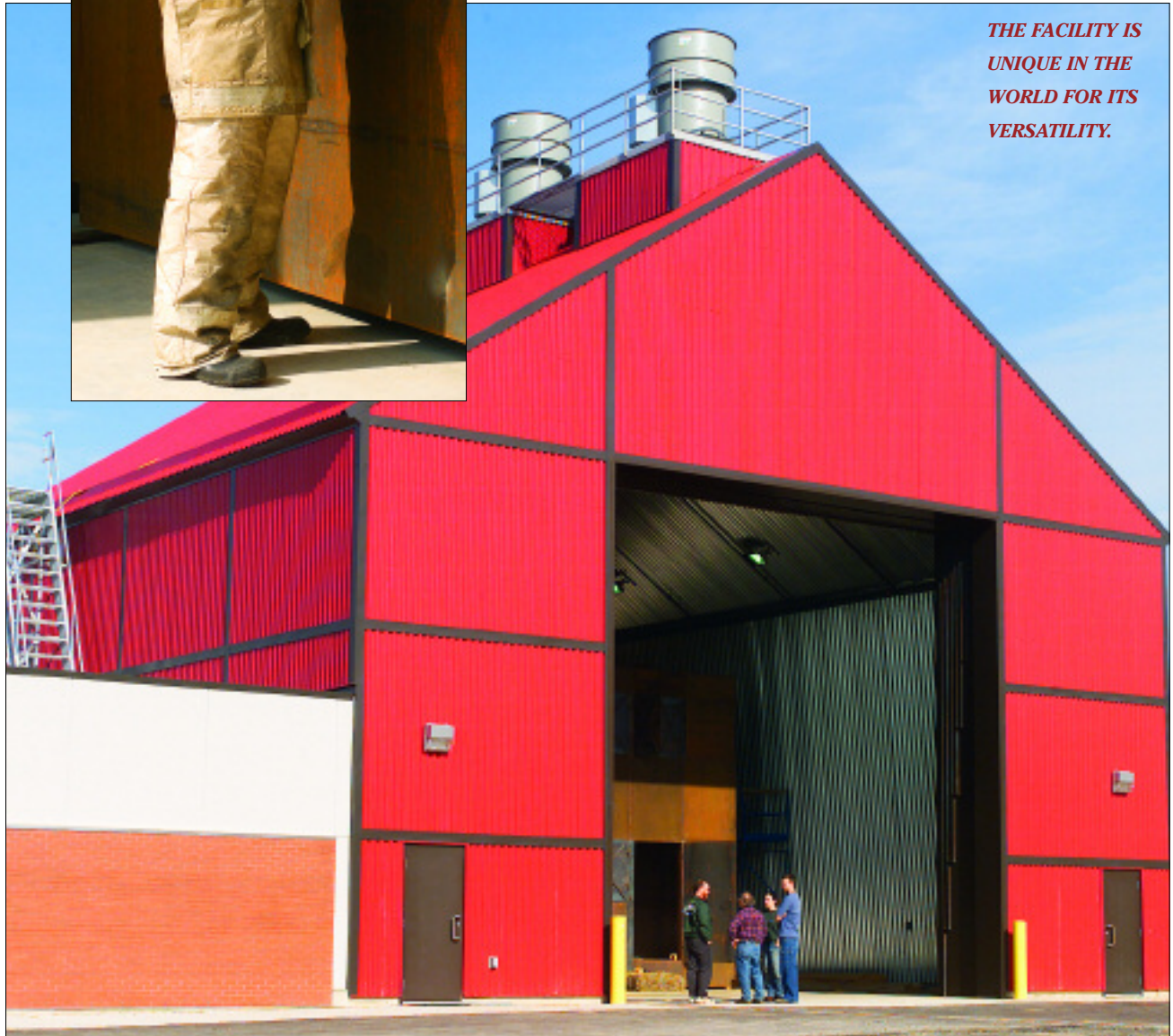
Fighting Fire With Fire

RESEARCHERS AT THE UNIVERSITY OF WATERLOO ARE SETTING FIRES TO LEARN HOW TO FIGHT THEM.

At first glance, it could be mistaken for a big, red, metal barn rising up on the horizon outside Waterloo. But the bank of huge fans at one end of the building suggests that something very different goes on inside.

This is the Live Fire Research Facility at the

*THE FACILITY IS
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VERSATILITY.*





Project: Live Fire Research Facility
Institution: University of Waterloo
Research Discipline: Engineering/Structural Engineering
Principal Investigator: Elizabeth Weckman
Trust Investment: \$2,135,415
CFI Investment: \$2,135,415
Total research investment from all sources: \$5,681,898

University of Waterloo. The facility allows researchers to set and study all kinds of fires in a controlled environment, and the fans add the final touch of realism: winds of up to 47 kilometres per hour. The cavernous main test space contains a two-storey “burn house”, but can also be configured to study fires in vehicles or even aircraft. Cameras and sensors in the room feed 380 streams of data to an adjoining lab and control room. The structure, and its state-of-the-art equipment, was funded in part by an investment from the Ontario Innovation Trust.

The facility—unique in the world for its

versatility—enables researchers to create a variety of fire scenarios, and then look at how those fires spread. Research here is already leading to new insights into fire prevention, detection and suppression, as well as occupational safety for fire fighters. One example: local Kitchener fire-fighters have changed the way they use fans to clear

smoke from a burning building, based on lessons learned at the Live Fire facility.

Every year, fire claims more than lives in Canada, injures over 2,000 and causes almost \$1.5 billion in property loss. By fighting fire with fire, however, researchers at the Live

Fire facility are working to lessen the damage that fire does.

RESEARCH THAT MATTERS
 REAL-WORLD BENEFITS FOR ONTARIANS:

- more effective fire-fighting strategies
- development of fire-resistant items and homes
- reductions in deaths, injuries and property loss due to fire



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Infrastructure for Innovation
About the Ontario Innovation Trust

The Ontario Innovation Trust was created in 1999 by the Government of Ontario to invest in research equipment and facilities at Ontario’s universities, colleges, hospitals and other non-profit research institutions. The Trust is governed by a volunteer Board of Directors, according to the terms of a Trust agreement established by the Ontario government. A small permanent staff looks after day-to-day operations.

Since its inception, the Trust has committed almost \$843 million to strengthen Ontario’s position in the global marketplace of ideas. This represents more than a third of the \$2.44 billion in total funding that has been invested in Trust-supported projects.